Critchett, G.

Operation for congenital cataract on an adult.

BF 241
C 869

M.C. MIGEL LIBRARY
AMERICAN PRINTING
HOUSE FOR THE BLIND

BF 241
C 869
Cop. 1

OPERATION FOR CONGENITAL CATARACT ON AN ADULT,

FOLLOWED BY

DIVISION OF THE RECTI MUSCLES FOR THE PURPOSE OF CONTROLLING THE OSCILLATION OF THE GLOBES.

BY

G. CRITCHETT,

SURGEON TO THE ROYAL LONDON OPHTHALMIC HOSPITAL.

Received May 23d.—Read Nov. 14th, 1854.

But few cases in which sight has resulted from an operation in an adult who has been blind from birth have been recorded: it is probable that but few have actually occurred; and we must expect to find this rarity increase as the treatment of congenital cataract during infancy approaches more nearly to certainty, and the inhabitants of remote, poor, and ill-informed localities are brought more within the reach of scientific surgeons. On this account every additional case may be thought to acquire increased value. We find also that each individual case of this kind possesses some peculiarities of practical utility and scientific interest. Nor must we forget the popular sympathy that is naturally enlisted in such a case. The restoration of sight, high as it must rank as a scientific result, sinks into comparative littleness when brought into competition with the introduction of a new and invaluable sense upon an adult mind, mature, more or less educated, and striving to realise, through the

imperfect and incapable media of sound and touch and language, ideas of the beauty and order and variety of our material universe. The poet, the novelist, and the dramatist have availed themselves of this idea, but have used a strange amount of poetic licence, and have widely departed from scientific truth in supposing the acquisition of sight to be suddenly and instantly complete. But we find quite enough in the plain, naked truth, and in a narrative of the facts of such a case as they actually occur, without borrowing from imagination or fiction, to gratify the inquiry of the scientific and the interest of the curious and the benevolent.

These considerations lead me to the conclusion that the case I am about to describe will, from its extreme rarity, its scientific interest, and its popular claims upon our attention, be thought worthy of being laid before your society.

Jane Smith, æt. 22, the daughter of a wheelwright, residing near Newbury, Berks, was first brought to me at the Ophthalmic Hospital in the spring of 1849. She was a tall, well-formed young woman, with a pleasing, intelligent, and cheerful appearance and manner. The forehead was large and rather well developed. There was slight internal strabismus of both eyes; considerable oscillation and involuntary rolling of the globes from side to side; the head was depressed, and the lids were usually kept nearly closed.

On examining the eyes, the corneæ were bright and normal; the anterior chambers were rather large; the irides were bright, and of a deep brown colour, rather thin, and stretched towards the pupil, which was very small, rather irregular, and filled with a flat, white substance, which had the appearance of being a dense piece of capsule of the lens; the pupillary margin of both irides were firmly adherent to these capsules, and were, in consequence, quite unacted upon by the stimulus of light or by belladonna. There was good perception of light, and under certain circumstances, when the light was very strong and thrown in a favorable way, a very bright colour could be distinguished from a dark one. It appears from the history that when about three years old

she was brought up to the Ophthalmic Hospital, and operated upon by Mr. Tyrrell once for congenital cataract, and that her mother, supposing nothing further was to be done, took her away into the country, and never re-applied at the hospital. As might be expected, no vision followed this operation. When nine years old, she was taken to Mr. Alexander, and was operated upon three times, with some benefit for about twelve months, and then relapsed into her former condition. When eleven years old, she was taken to Mr. Cleobury, of Oxford, and was again operated upon, with some temporary improvement. Nothing further was attempted until she was brought to me, about eleven years after, in the condition I have already endeavoured to describe.

The difficulties of the case with which I had to contend were the extreme firmness and toughness of the capsule, the strength of the adhesions between the iris and capsule, and the constant, irregular, oscillatory movement of the globes. I performed five needle operations through the cornea, at intervals of about two months. On each occasion I succeeded in partially detaching the tough capsule from the iris, so as to leave a small pupil; but this gradually contracted again, so as to prevent useful vision. In each operation the needle was introduced through the cornea, so as to disturb the eyes as little as possible. At length I succeeded in so far detaching the capsule in the left eye, as to leave a small, permanently clear pupil, though a portion of capsule could still be seen; in the left eye I was not so successful. Just at that time my attention was drawn to the very beautiful little canular forceps brought over to the Great Exhibition by Charrière and Luër, from Paris. I had already succeeded in partially detaching the capsule from the iris on one side, but not to such an extent as to leave any clear pupil. I therefore made a small opening, with a broad needle, through the sclerotic coat, about a line and a half behind the corneal junction. With the forceps I seized the capsule, and drew it outwards towards the opening; just at this point the piece broke away from the forceps, but

the capsule remained completely out of the sphere of vision, leaving a small oval pupil, slightly drawn outwards. I had now succeeded in getting a pupil in each eye. That in the left was small, but central, and about half the natural pupil was still filled up with a tough piece of white, opaque capsule; but as there was a perfectly clear space by the side of it, I thought it undesirable to interfere further with it. In the right eye the pupil was larger, of an oval shape laterally, and perfectly clear. Having succeeded so far, another rather serious difficulty remained. There was slight strabismus, and incessant and unconquerable rolling of the eyeballs from side to side to such an extent, as completely to prevent the fixing the eyes upon any object for a sufficiently long time to obtain a correct image or transmit an impression to the brain, and therefore, practically, she was nearly as badly off as ever. To remedy this serious evil, I first divided the internal rectus of the right eye, which was the one that appeared slightly inverted. This had the effect of entirely removing the inversion, and of very much controlling the oscillatory movement. Finding that in the left eye, though there was no strabismus, there was incessant movement, I was induced, some weeks after, to perform the same operation in that eye. My patient was now in a far better state for the use and education of her newly obtained sense; the eyes were straight and very much steadier. Still, after some months' trial, she again applied to me, complaining that before she could get an image clearly fixed in her mind, she felt her eyes involuntarily drawn outwards, and thus lost it. As this was a serious drawback to her education, I divided the external rectus in each eye; the result of which is that the globes are now nearly stationary, and the slight movement that remains is well under control. All that operative measures could secure had now been accomplished. The poor girl had two fine dark hazel eyes, with small, clear, central pupils; and the globes were quiet, central, worked together, and under fair control. Still, vision was imperfect, owing probably to the absence of lenses, the partial development

of the retina, and the entire want of education. I now procured lenses for her,—one four-inch, and another two-inch focus. The progress of the case had been so slow, and the recovery of such an amount of sight as was now enjoyed so gradual, that it was impossible to perform any of those very striking experiments that one or two cases that have been already put on record have exhibited; at the same time, I observed a few rather curious circumstances. It was remarkable to contrast the rapidity and accuracy of her sense of touch, which was highly educated, with the slow, laborious process by means of which she arrived at the shape and nature of an object through the medium of her newly acquired and imperfectly educated vision. I found that glasses assisted her very much in obtaining a clear outline of objects; but they gave her an impression that everything was much larger than her previous experience, through the medium of touch, had taught her that it really was. I found that she was never able to ascertain what an object really was by sight alone, though she could correctly describe its shape and colour; but that after she had once instructed the one sense through the medium of the other, and compared the impression conveyed by touch with sight, she was ever after able to recognise the object without touching it. In this respect her memory was very perfect; I never knew her fail in a single instance, and I put this power very frequently to the test of experiment. It was curious to place before her some very familiar object that she had never compared in this way, such as a pair of scissors. She would describe their shape, colour, glistening, metallic character, but would fail in ascertaining what they really were until she put a finger upon them, when in an instant she would name them, and laugh at her own stupidity, as she called it, at not having made them out before.

I made her describe objects that I was sure she had never had an opportunity of examining before, either by touch or sight, and this she did so accurately, as perfectly to prove, if proof be wanting, that she saw the object in its erect and natural position, and not inverted, as it appears upon the

retina; this experiment I several times repeated, and always with the same result, never, of course, allowing her to touch the object until she had described its shape to me. She was very near sighted, particularly for small objects, and seemed to be unable to form any idea of solidity—everything seemed flat to her. Her greatest difficulty was with the human face; although she could see and describe and name each feature, she seemed unable to take it in as a unity, and was unable to recognise a person except by voice or touch; and after two years of education she has not acquired this faculty. She can see the shape of large letters and figures with a two-inch lens, and she has learnt her letters; but residing in a small country place, where a schoolmaster is a scarce commodity, and surrounded by uneducated people, she has not had much help or encouragement in the prosecution of her studies. I saw her about a week ago; above two years have now elapsed since the last operation. I found she had made great progress in the rapidity and certainty with which she could recognise objects; she can see the hands upon a small watch, and distinguish small coin from each other, and which surface is presented to her. She can find her way about, distinguish her food, see to do household work and various kinds of needlework, and can distinguish the patterns of dresses and ribbons: in this last accomplishment she shows great aptitude, accuracy, and delight. Her own impression is that for a year she made considerable progress, but that recently her visual powers have not improved. The sight she enjoys is very valuable to her as compared with the blindness from which she previously suffered, but it must be admitted that it is inferior to the sight usually resulting from the operation for cataract. This is probably due to a combination of causes: 1st, the length of time that the retina was disused, being above twenty years; 2dly, the numerous operations that were performed at successive intervals, each, probably, attended with more or less inflammation; 3dly, the very imperfect state of the muscular apparatus, and the loss of focussing power; 4thly, the want of mental aptitude for

taking in and acquiring a combination of objects, the result of neglected education of these faculties, and the undue development of the sense of touch—the one sense being educated at the expense of the other.

This case, independently of the interest attached to it on account of its rarity and romance, seems to me to possess some few points of practical value. The first fact that suggests itself, and receives a powerful illustration from the history of this case, is the fact that the capsule of the lens, when once wounded, has a constant tendency to become firm and tough, which increases every year that it is allowed to remain, and also contracts a very firm attachment to the pupillary margin of the iris. This shows the great practical importance of watching closely a case that has been once operated upon, and taking care that a free and sufficient opening be made in the centre of the capsule during the gradual absorption of the lens. If this be neglected, great difficulty is experienced in getting an opening in the capsule, or removing it from the axis of vision; and every year increases the embarrassment of the case. Another circumstance to which I would briefly allude is the plan I adopted for removing the oscillatory state of the globes. I am not aware whether the division of the recti muscles has been suggested or adopted for this purpose before, but it certainly answered the purpose exceedingly well, and I should be disposed to adopt it in any similar case; the loss of power in moving the eye from side to side is attended with very little practical inconvenience, and the removal of involuntary movement is of great value in improving the visual power. The plan I adopted for the formation of a central pupil may fairly suggest a subject for discussion; it has the merit of having been safe and successful, and the demerit of tediousness. As a disciple of the late Mr. Tyrrell, I imbibed from him the idea of drilling in such cases, with a view of either penetrating through the capsule or separating it from the pupillary margin of the iris; in one eye I succeeded, and in the other I had effected a separation to such an extent as to enable me easily to draw

out the piece of capsule from the field of vision. It will probably occur to many present that the very simple and efficient method of using two needles, first suggested by my friend Mr. Bowman, would have been applicable to this case: an answer to this may be found in the fact that this plan had not been attempted at the time this case was under treatment; and even if it had, I am inclined to think that the pupil was so small, and the capsule so impenetrable, that two needles could not have been brought to bear efficiently upon the case. The use of Luër's small canular forceps was of great value in completing the case, but they would have been very unsafe until the capsule had been to some considerable extent separated from the iris. Any attempt to draw away the capsule at first would have probably damaged the iris, or separated it from its ciliary attachment; the case might, perhaps, have been hastened by the formation of an artificial pupil, but the result would have been less satisfactory, and perhaps not much more speedily accomplished. On the whole, after reviewing all the circumstances of this singular case, I am inclined to think that, even with every recent improvement, I could not have adopted any other plan that would have so safely and efficiently accomplished the object I had in view.

Medico-Chirurgical
transactions -
vol. 38 - pgs. 51-8.

Photomount
Pamphlet
Binder
Gaylord Bros. Inc.
Makers
Syracuse, N. Y.
PAT. JAN 21, 1908

BF241 Critchett, G, c. 1
C869 Operation for congenital
cataract on an adult.

Date Due			

BF241 c. 1
C869
Critchett, G.
AUTHOR
Operation for congenital
TITLE cataract on an adult.

DATE DUE	BORROWER'S NAME
	Reference Copy